SECTION 11010

ROOF TIE-BACKS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes scaffolding support equipment as indicated on drawings, including:
   1. Safety tie-backs (roof anchor).

B. Related Sections:
   1. Division 7 Section "Built up Asphalt Roofing".
   2. Division 7 Section "Protected Built up Asphalt Roofing".

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions for products used for window washing equipment, including paint products and grout.

B. Shop Drawings: Submit shop drawings for fabrication and erection of window washing equipment. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others.

C. Engineering Calculations: Provide structural calculations for safety tie back system loads transferred to the structural members of the building Calculations shall be sealed by the Structural Engineer licensed in the State of Tennessee.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has successfully completed window washing equipment installations similar in material, design, and extent to that indicated for Project.

B. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting where taking field measurements before fabrication might delay work.

C. Regulatory Requirements: In addition to local governing regulations, comply with the following:
   1. ANSI A39.1A, Safety Requirements for Window Cleaning.

D. Welding Qualifications: Qualify welding processes and welding operators in accordance with AWS "Welding Procedure and Performance Qualifications."

E. Structural Requirements:
   1. All components of the safety tie back system including fasteners, attachments, and appurtenances, shall be designed with a safety factor of 4 to 1.
   2. No component, including fasteners, attachments and appurtenances, shall sustain permanent deformation under maximum design load.
   3. Design loads and allowable stresses for all components of the safety tie back, including anchorage to the building structure, shall be determined and engineered by a Structural Engineer licensed in the State of Tennessee and employed by the manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. PROBEL, The Safety Roof Anchor Company.

2.2 FERROUS METALS

A. Steel Plates, Shapes, and Bars: ASTM A 36.

B. Stainless-Steel Plate, and Flat Bars: ASTM A 666, Type 304.

C. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.

D. Steel Tubing: Cold-formed steel tubing complying with ASTM A 500.

E. Steel Pipe: ASTM A 53, standard weight (Schedule 40), unless another weight is indicated or required by structural loads.

F. Fasteners: Provide Type 304 or 316 stainless-steel fasteners. Select fasteners for type, grade, and class required.

G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.
   1. Material: Alloy Group 1 or 2 stainless-steel bolts complying with ASTM F 593 and nuts complying with ASTM F 594.

2.3 TIE-BACKS

A. Safety Tie-Backs: Provide stainless steel safety tie-backs, consisting of top plate, shackle, steel pipe and base plate. Design safety tie-back to withstand a load of 5,000 pounds in any direction.
   1. Provide tie back anchors where indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install tie-back supports in accordance with manufacturer's directions and details.

END OF SECTION 11010